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the family and usually the genera of any of our northern birds."

As it attempts to trace them all to the *species*, I think the notice should say so, and, if it is a failure in that attempt, say that also, and not lead readers to think I would write a book to enable a hunter to find out merely that the bird he shot is a snipe rather than a duck.

AUSTIN C. APGAR.

Trenton, N. J., Dec. 27, 1893.

### BOOK-REVIEWS.

*The Science of Education, Its General Principles Deduced from Its Aim, and The Aesthetic Revelation of the World.* By JOHANN FRIEDRICH HEBART. Translated from the German with a Biographical Introduction by Henry M. and Emmie Felkin and a Preface by Oscar Browning, M. A. Boston, D. C. Heath & Co. 268 p., 1893.

PROBABLY no feature of our intellectual culture and of our advancement in higher education is so significant as the growing library of pedagogics in this country. For a number of years this department of thought has been sadly neglected with us, while abroad it has long received due attention as a most important factor in philosophic progress. Particularly with the German thinkers has this subject proved most fruitful, but, unfortunately, the peculiar difficulties of philosophical German have limited the English-speaking readers of these works to a favored few who, maybe, from residence abroad have acquired that thorough knowledge of the language necessary. Mr. and Mrs. Felkin have certainly then earned the applause of all teachers and thinkers by their careful and conscientious translation of these most valuable works of Hebart. Hebart himself is known by little more than name in this country, though some may recall him as a former professor at Göttingen, whose works on psychology and education are of great value; and yet as a metaphysician, psychologist, philosopher and teacher few men are deserving of so much careful study.

In the introduction to the present work we have a

charming biographical sketch of the author, revealing in its carefully selected details glimpses of the inner man and offering a series of pen pictures of great value and assistance to the proper appreciation of the discussion which follows. Through his childhood, at Jena, at Bremen, at Göttingen, at Königsberg, we follow the author in his development, if development it can be called, when from their inception his theories seem to be those of mature growth and profound contemplation. Following this entertaining sketch the translators have given a review of Hebart's philosophy, together with a synopsis of the two works which follow and form the principal portion of the book. The review has evidently been written from a thorough acquaintance with Hebart's writings and is an additional aid to our understanding of his principles. "The whole aim of education, according to Hebart, is contained in the one word, morality. Its whole work is to form a character which in the battle of life shall stand unmoved, not through the strength of its internal action, but on the firm and enduring foundation of its moral insight and enlightened will." "Proceeding from morality as the highest aim of humanity, and consequently of education, the essence of formation of character is defined as 'a making' which the pupil himself discovers when choosing the good and rejecting the bad. This rise in self-conscious personality must take place in the mind of the pupil himself, and be perfected by his own exertion. To place the power already existent, and in its nature trustworthy, in the midst of such conditions that it must infallibly effect this rise, is what the teacher must conceive as possible—while he must consider the great work of all his efforts is to reach, understand and guide that power."

*Industrie des Cuirs et des Peaux, Analyse des Matières Premières, des Agents Auxiliaires et des Products.* Par FERDINAND JEAN. Paris, Gauthier-Villars et Fils. 195 p., 1893.

*Fabrication des Vernis, Application à l'Industrie et aux Arts.* Par LAURENT NAUDIN. Paris, Gauthier-Villars et Fils. 200 p., 1893.

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*Decoration Céramique au Feu de Moufle.* Par M. E. GUENEZ. Paris, Gauthier-Villars et Fils, Quai des Grands-Augustines, 55. 199 p., 1893.

We have already noticed in these columns previous numbers of the *Encyclopédie Scientifique*, of which these present volumes form a recent addition, and further remarks on the general excellence of the plan adopted would be unnecessary. The detailed but concise descriptions of the individual arts and sciences, with separate volumes, each devoted to some particular speciality or division of the whole, and each complete in itself, is an undertaking sufficiently vast to make a doubt as to its success perfectly natural. But under the directorship of M. Leanté, Membre de l'Institut, and of M. Masson, editor, this success has certainly been attained, and we are presented with a series of works each superior in its particular field, and of value to a specialist as well as to the general reader. The first volume, treating of the tanning industry, naturally appeals most strongly to the manufacturer and to the chemist. The discussion consists, in brief, of the study of the crude materials and the chemical products which are introduced, of the theory of the successive operations of manufacture and their practical manipulation. Methods of analysis are also given, and in such a manner as to be intelligible to the manufacturer as well as to his chemist.

The manufacture of varnishes, by M. Naudin, is divided into two parts, the first treating the theoretical side and including the analysis of the resins and oils, with brief notice of the manner of extraction of the same, and their origin both geographical and botanical. The second part treats of the principal processes of manufacture actually used in this branch of industry.

The art of china and pottery decoration is so widespread and includes among its devotees so many amateurs, as well as those working upon a larger scale,

that this little book of M. Guenez will doubtless prove profitable to many readers. Those "little points" which one soon discovers to be so essential to success are here described in principle and in practice, and by an understanding of the cause of the failure repeated disappointment is avoided. In pursuance of this plan the first part of the book deals with the theory or chemistry of china painting, while the second describes in detail the methods used in practice. While sufficiently popular to prevent no serious difficulties to the amateur, this book is of greatest value to the industrial worker.

#### NOTES AND NEWS.

MRS. J. R. GREEN'S "Town Life in the Fifteenth Century" is nearly ready. It will be of undoubted interest to the general reader as well as to the student of political economy, dealing, as it does, with the days when the towns were independent communities and centres of political life. "There is nothing in England to-day," writes Mrs. Green, "with which we can compare the life of a fully enfranchised borough of the fifteenth century, . . . a state within a state, boasting of rights derived from immemorial custom and of later privileges assumed by law."

—Mr. J. Norman Lockyer, the author of "The Meteoritic Hypothesis," "The Evolution of the Heavens and the Earth," and many other important works, has in press a new book, "The Dawn of Astronomy." It tells of the days when wonder and worship formed the prevailing feature in any consideration of the heavenly bodies; and it traces in Egypt and Babylonia, in China and India, the beginnings of the scientific treatment of the subject. The numerous illustrations lend another feature of interest to this delightful book.

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Museum of Hamline University desires to exchange Marine Shells, preserved alcoholic material of marine zoology, or microscopic slides for zoological specimens from southern and western United States, especially for rodents in the flesh. Correspondence solicited. Address Henry L. Osborn, Biological Laboratory of Hamline University, St. Paul, Minnesota.

For Sale.—Small collection of fine first-class sets of birds' eggs; single breech-loading shotgun, gold-filled hunting-case watch and telescope. Write for list of eggs and particulars. B. S. Bowditch, Phelps, N. Y.

I am desirous of obtaining the following back numbers of *The Auk*: One copy each of Oct., 1885; July, 1886; January, 1887; July, 1887; April and July, 1891; and two copies each of the following: January, 1886; Oct., 1886; Oct., 1887; July, 1888; January, 1889; January, 1890. My own contributions in them only are required; otherwise the copies need not be perfect. I have in exchange for them two vols. (zoology) Mex. Boundary Surveys, col. plates) or complete set of English reprints of "Osteology of Arctic Water-Birds, etc." (6 parts, 24 lith. plates); or other rare scientific reprints of any subject required. Address Dr. Shufeldt, Takoma, D. C.

#### Wants.

Wanted.—Sachs's Text-book of Botany, 2nd English edition. Dr. Alfred C. Stokes, 527 Monmouth Street, Trenton, New Jersey.

WANTED to exchange for human bones or recent medical text-books, the following books: "Metallurgy of Silver," M. Bissler, 1880; "Practical Treatise on Petroleum," by Benj. J. Crewe, 1887; "Cook's Chemical Philosophy," 1883; "Cairn's Chemical Analysis," 1881; "Wagner's Chemical Technology," by Crookes, 1886; "Fresenius's Qual. Chem. Analysis," 1879; "Elementary Treatise on Practical Chemistry and Qual. Analysis," Clowes, 1881; bound Vols. 1 to 12 of Dr. Lardner's "Museum of Science and Art" (very rare, 1854; back numbers of "Electrical World," beautiful specimens of Pyrite Incrustations from Cretaceous of New Jersey; Magnetis Iron Ore, Highly Polarized. Address D. T. Marshall, Metuchen, N. J.

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